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SCIENCE.

FRIDAY, OCTOBER 23, 1885.

COMMENT AND CRITICISM.

IT IS REPORTED that the President has virtually decided to postpone the appointment of the superintendent of the coast and geodetic survey until after the meeting of congress. This, if true, will be regretted by all interested in the survey, as it is essential that when congress assembles there shall be some one to speak with authority about the needs and work of the survey. As the matter now stands, congress will have no one to look to for a policy.

AN INTERESTING DISCUSSION took place at the meeting, October 9, of the Naval institute at Annapolis on the subject of arctic exploration. C. R. Markham, of the Royal geographical society, presided, and the essayist of the evening was Lieut. J. W. Danenhower of the Jeannette expedition. The point of the paper was the inadvisability of further arctic exploration, and the speaker declared himself as definitely opposed to further exploration of the polar region bounded by the 85th parallel. He considered that geographical discovery is not of sufficient importance to warrant exposure to the dangers to be encountered there, and that there is no special reason for supposing that the meteorological phenomena of the polar region differ essentially from those which may be observed near its borders. The paper was supplemented by others received from Chief engineer Geo. W. Melville, U.S.N., Sir Geo. Nares, and Lieutenant Greely, and verbally discussed by Dr. E. Bessels of the Polaris expedition, and Mr. Markham. Letters in favor of further arctic exploration were read from Prof. J. E. Nourse, U.S.N., and Dr. H. Rink, formerly governor of the Danish colonies in Greenland.

The tenor of the discussion, generally, was to the effect that, while it might be admitted that further exploration could not be justified on utilitarian and commercial grounds, nevertheless, without reference to scientific results, the world could not but gain by the examples of determination and heroism which arctic exploration may be counted on to develop in the future, as it has done in the past, that

individuals and nations cannot afford to gauge their endeavors by a merely commercial standard; and, last, that in regard to the facts of terrestrial physics to be determined by arctic exploration, the essayist had come to an unwarranted conclusion. The latter view was especially insisted on in a vigorous and comprehensive statement by Mr. Markham.

There can be but one opinion among men of science in regard to a certain sort of arctic expedition. A vague 'patriotic' impulse to plant the flag of any given country at the pole, taken by itself, is no more entitled to respect than is the motive which prompted the wanderings of 'Sergeant Bates' over regions generally accessible. An expedition fitted out for mere glory, without any definite scientific object or well matured and clearly understood plan, officered by men whose courage, enthusiasm and inexperience are their only qualifications, is in no respect to be commended. Such expeditions have had their share of the glory they sought, and have contributed an enormous proportion to the total of arctic disaster. It is to be hoped that there will be no more of them, in spite of the fact that they have also contributed something to the common stock of knowledge. Scientific exploration of the arctic regions will go on. Like other undertakings which depend for the sinews of war upon national or individual interest and liberality, it will have its periods of activity and of inaction. But that the crown of the sphere shall be left to solitude and the auroras, while science with her questions and man with his ambitions coexist upon this planet, is a proposition requiring no refutation.

THE NECESSITY OF PAYING greater attention to the study of geography in its widest sense is gradually becoming admitted in European countries. The *Revue de géographie* cites, with appropriate comments, a recent discussion in the French senate on this subject, by M. Bardoux, formerly Minister of public instruction, and M. Goblet, at present holding that office. In brief, the former called attention to the need of more and better geographical teaching, both in Paris and the provinces, and to the isolation of the present teachers. He urged

the creation of more professorships and the propriety of combining their forces into a national faculty, institute, or school, of advanced geographical teaching. In this way no additional expense would be required, and yet the work might be more effectively carried on.

The minister in replying evinced his sympathy with the view that geography was growing daily more important and should be more widely taught. He declared his desire for more numerous chairs of that science, and that it should be taught more effectively, but doubted whether it were desirable that any centralized body should undertake instruction of that science separately, evidently believing that it should be taught in conjunction with other branches of learning. He also pointed out that much progress had already been made. Four professorships of geography have been created since 1870, and more than ten others combine history and geography, besides which there are several courses of lectures on geographical subjects. M. Drapeyron, the editor of the review, is devoted to the project of a national school of geography, and has constituted himself its apostle in France. By geography is, of course, meant 'knowledge of the earth' in its widest sense, and not merely a smattering of political divisions, large towns and the most salient physical features, mixed with a little history, ethnology, architecture and cartography, which passes muster for the science of geography in most of our schools.

Great Britain has recently been stirring in the matter of geographical teaching, and, though this country has benefited greatly by the work and presence of such men as Guyot and Maury, and by the constant progress of actual exploration, which has made certain aspects of geography familiar to the public mind, yet even here the teaching of this science leaves much to be desired, and it is not yet, we believe, recognized by a full professorship in any of our universities.

ASTRONOMERS AT MOST observatories must envy those at Nice their clear skies. M. Charlois of that observatory was the first to pick up Tuttle's comet at its late return, and, although it was only possible to observe it for ten or fifteen minutes each morning, between its rising-time and twilight, yet, in spite of its faintness, nearness to the horizon, and this limited time, he was able to compare its

position with that of neighboring stars on six consecutive days after discovery, thus furnishing plenty of data for fixing the time of perihelion passage and correcting the elements of its orbit, even if no other observations are secured at this return. The same observer also obtained good observations of Barnard's comet on the seven consecutive nights following the telegraphic announcement of its discovery. These are records that could be made at very few places outside the sunny skies of southern France and Italy.

THE RELATIVE IMPORTANCE of astronomy and meteorology, as looked upon in some parts of the world, is well illustrated in a volume just published whose title page reads: "Meteorological observations made at the Adelaide observatory, and other places in southern Australia and the northern territory, during the year 1882, under the direction of Charles Todd, C. M. G., F. R. A. S., observer, postmaster-general, and superintendent of telegraphs." The volume is a folio of 298 pages, of which all but two are devoted to meteorology. These two describe the astronomical work of the Adelaide observatory for 1882, the first being devoted to the observation of ten phenomena of Jupiter's satellites, of which only two are eclipses, the phenomena timed in these cases being described as 'first seen,' 'quite distinct,' and 'full blaze.' The other page is devoted to the director's observations upon the transit of Venus of December 7, made at Wentworth. The description of the determination of the latitude of the observing station is worth quoting. "The latitude, deduced from eleven meridian altitudes, kindly taken with a sextant by Mr. J. W. Connolly, surveyor, is $34^{\circ} 6' 24.7''$."

THE ALERT EXPEDITION.

THE steamer *Alert*, Lieutenant Gordon, R. N., commanding, arrived at St. John's, N. F., Oct. 14, from her second attempt to reach Hudson Bay, having visited all the stations where observers had been placed in 1884, relieving the parties and supplying their places by fresh observers. All were well, only one death, that of a station hand by scurvy, having been reported. One of the stations was found deserted, but the party, fearing the *Alert* might not reach them, had taken passage on the Hudson Bay company's steamer *Labrador*. The results of work at the stations have been favorable, though exact details have not yet been received. The *Alert* reached her destination